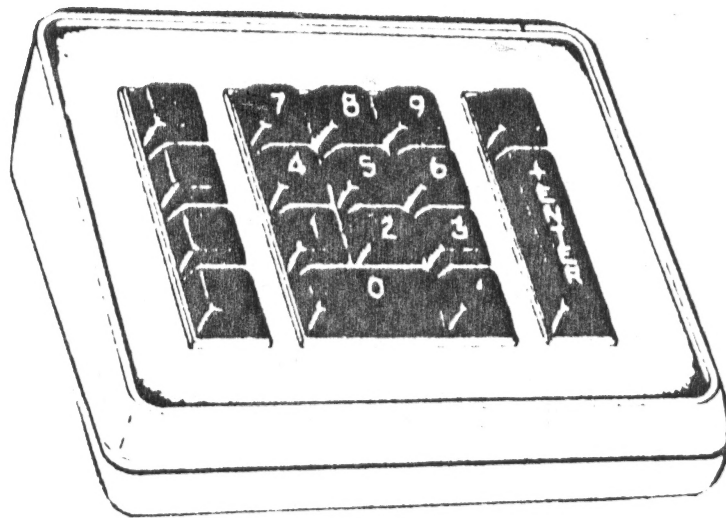


Deluxe

ICX-85 KEYPAD



"NEED'S NO HANDLER"
WORK'S WITH
ALL COMPUTER
SOFTWARE

Innovative Concepts (I.C.)
Presents The:

ICX-85 keypad
For ATARI 8-bit computers

Works On ALL Software!
No Handlers required!

ATARI, CX-85, 400, 800, 600XL, 800XL, 1200XL, 65XE, 130XE
are registered trademarks of ATARI CORP.

©1987 Innovative Concepts (I.C.)
Mark Elliott (313) 293-0730 / Ron Florka (313) 778-7832

Notes - Even though the ICX-85 keypad was made to be installed easily, you should at least have basic soldering skills, to complete this upgrade effectively. If required, have a friend or technician that does, OR, we at Innovative Concepts (I.C.) will be glad to install it on your computer, at a nominal charge.

WARNING - Installation of this keypad may void your computer's warranty!

WARRANTY - We at Innovative Concepts (I.C.) guarantee the ICX-85 keypad, to be free of defects for a period of 90 (ninety) days, commencing on date of purchase. During this ninety days, we will repair/replace, at Innovative Concepts (I.C.) option, the keypad free of charge. Due to the nature of this upgrade, this warranty becomes NULL and VOID in the result of improper installation, negligence, or abuse. We are also, NOT responsible for damage done to the computer as a result of the installation of this keypad. Out of warranty repairs will be done at a nominal charge.

Description	Page #
65XE & 130XE Installation	3
600XL & 800XL Installation ...	6
1200XL Installation	9

NOTE: As of this writing, we at Innovative Concepts (I.C.), are just starting on the installation docs for the 400 & 800 computers, which will be available in a short time.

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*
*      The ICX-85 Keypad
*      For The Atari Computers
*      600XL/800XL/1200XL/65XE/130XE
*
*      Copyright ©1987
*
*      Innovative Concepts (I.C.)
*      31172 Shawn Drive
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*      Phone: (313) 293-0730
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NOTE: We have not included the installation instructions for the 400 & 800 computers, because of the complexity of dis-assembling those computers, and the lack of responses. However, if you, or you know someone that has one of those computers, and would like a keypad installed on it, we can provide brief instructions, on request.

Tools Required

Soldering iron (35 watts or less)
Solder (.040 diam. or less)
Phillips screwdriver (medium size)
Needle nose pliers
Small diagonal wire cutters

Preparation

Disconnect all cables (tv/monitor, power, drives, etc. Find a small container to hold all screws or bolts that come from your computer. Take your time, and follow the steps carefully.

The upgrade

- 1) Turn your computer over (keyboard facing down) and use the phillips screwdriver to remove the screws.
- 2) Carefully, holding both sections together, turn the computer over to it's normal position.
- 3) Carefully, lift the keyboard section up an inch or so, and notice the connector that goes from the keyboard to the main circuit board of your computer. Carefully remove this connector from it's socket, then place the keyboard in a safe place. On some 600XL/800XL's, there is also a single wire going to the rear of the circuit board, unplug that also. 1200XL's have two connectors located on the left, unplug both. Note: 1200XL owners can now skip down to step # 8, since the two IC's you will be soldering on (IC1 & IC2), are located on the keyboard section.
- 4) Using the phillips screwdriver, remove the screws that hold the circuit board to the lower plastic casing.
- 5) Now, carefully remove the circuit board from the lower plastic casing, avoid exerting too much force, as to not damage the circuit board. On some 600XL/800XL's, the circuit board is extremely tight fitting in the case. In that case, carefully flex the plastic case on the right, where the joystick port openings are.
- 6) Notice that there is actually two sections of RF shielding (one on each side of circuit board), and that they are connected together with metal flaps. Use the needle nose pliers to bend ALL the metal flaps, so that each flap will fit through each hole.
- 7) Separate the RF shieldings, and place them aside. Get the separate cable with 15 separate wires, that came with this upgrade (only 12 of these wires are used in this upgrade, the other 3 are reserved for future add ons). Notice the 2 (two) I.C. chips near the keyboard connector socket, marked CD14051 (or 4051). These are the ONLY two chips that will be soldered to, in this upgrade! REMEMBER, pin # 1 of most I.C.'s is identified by a small dot or indentation near it!

Note: Because of the different part numbers used in each of the models, I have simplified this by referencing them as IC1 and IC2, for the two CD14052 (4051) chips to be soldered on. The 1200XL does not have any visible part numbers for these two. One the 1200XL, the one closest to the connector (on back of keyboard) we reference as IC1, the other as IC2. Refer to the following chart for exact locations.

Model	* IC1/Location	* IC2/Location
600XL*	U22/lower	* U23/upper
800XL*	U24/lower	* U25/upper
1200XL*	near connector	* next to IC1
65XE*	U24/upper	* U25/lower
130XE*	U24/lower	* U25/upper

Steps 8-14: Soldering to IC1 (CD14051/4051)

- 8) Solder the light brown wire -TO- pin # 1.
- 9) Solder the dark green wire -TO- pin # 4.
- 10) Solder the yellow wire -TO- pin # 5.
- 11) Solder the orange wire -TO- pin # 12.
- 12) Solder the gray wire -TO- pin # 13.
- 13) Solder the dark blue wire -TO- pin # 14.
- 14) Solder the purple wire -TO- pin # 15.

Steps 15-19: Soldering to IC2 (CD14051/4051)

- 15) Solder the medium blue wire -TO- pin # 1.
- 16) Solder the dark brown wire -TO- pin # 2.
- 17) Solder the light blue wire -TO- pin # 4.
- 18) Solder the red wire -TO- pin # 12.
- 19) Solder the light green wire -TO- pin # 14.

20) Get the bottom plastic casing and, using the diagonal cutters, cut a circular section in the opening for the I/O port on the rear, in the middle. Cut in small sections at a time! You are doing this to allow the cable you just installed, to come out just ABOVE the I/O port. Note: 1200XL owners, now check your work. If all looks well, you are ready to re-assemble your computer.

21) If you prefer, you can use either plastic ties or thin insulated wire to hold down the wires and look neater in appearance.

22) Put the bottom metal RF section on. Then the top RF section, making sure not to pull the wires off. Re-bend the metal flaps that hold the two RF and circuit board together.

At this point, double-check to make sure all the wires are going to the right chip and pin number. Also, make sure all the wires are making firm contact, and not shorting out against another. If everything looks good, you are now ready to re-assemble everything.

Carefully, put the circuit board in the lower plastic casing, and plug the keyboard in the socket, then lower it onto the bottom casing. Then, finish putting your computer back together in reverse order as outlined in the beginning of these instructions, then route the connectors cable you installed through the opening in the back that you cut.

After completely assembling your computer, plug the keypad into the socket you installed. Plug all your cables back in (power, disk drive tv/monitor, etc.). Hold the OPTION key down and turn the power on, taking you to the SELF TEST. SELECT the keyboard test, then hit the START key. Test ALL your keys on the keypad, to make sure they function properly. See the usage notes in the next section.

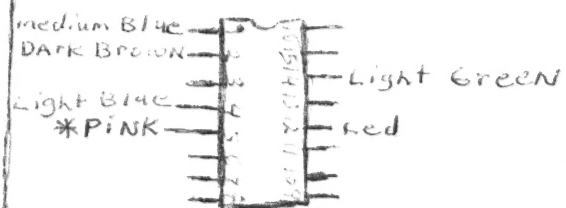
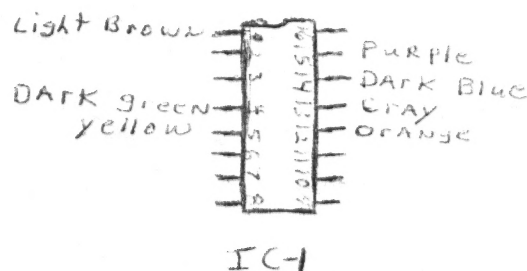
Usage NOTES

For your convenience, the keypad has been modified internally on the following keys:

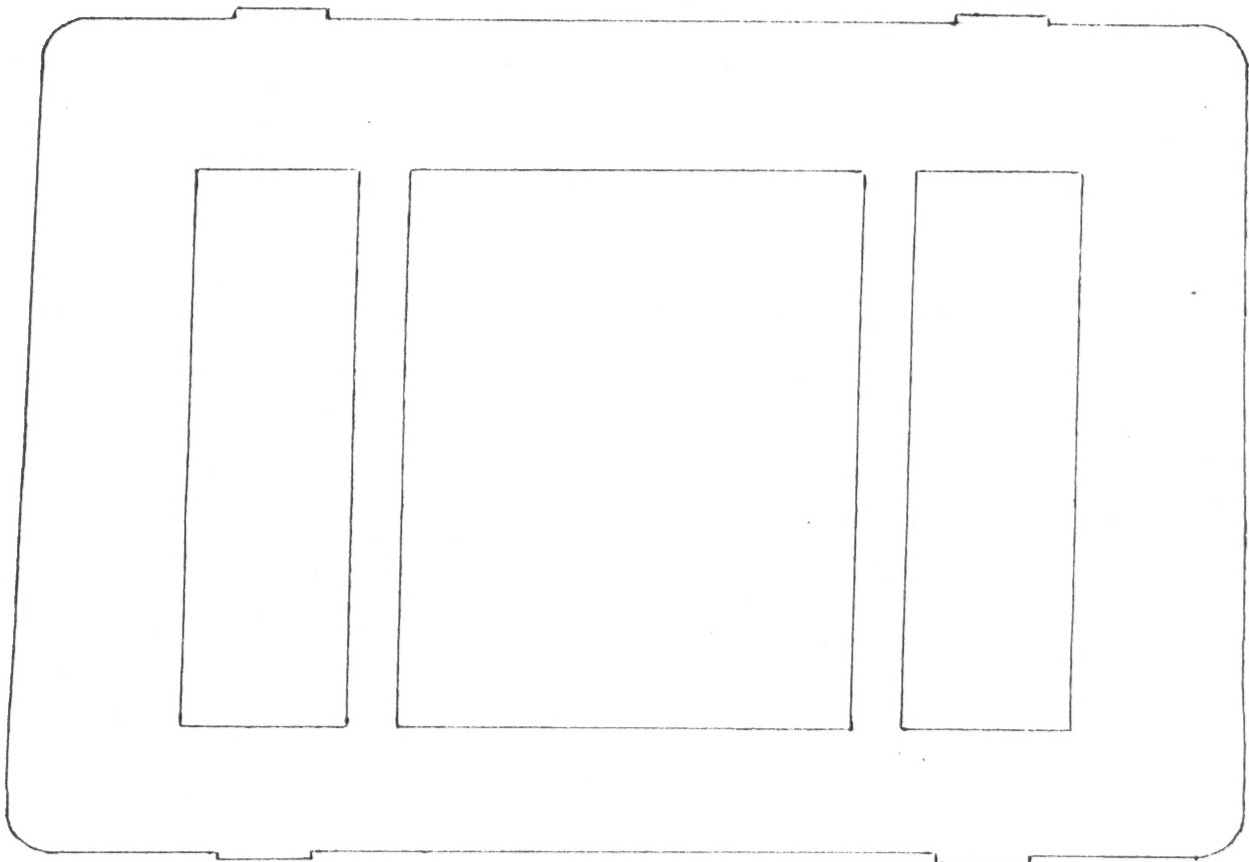
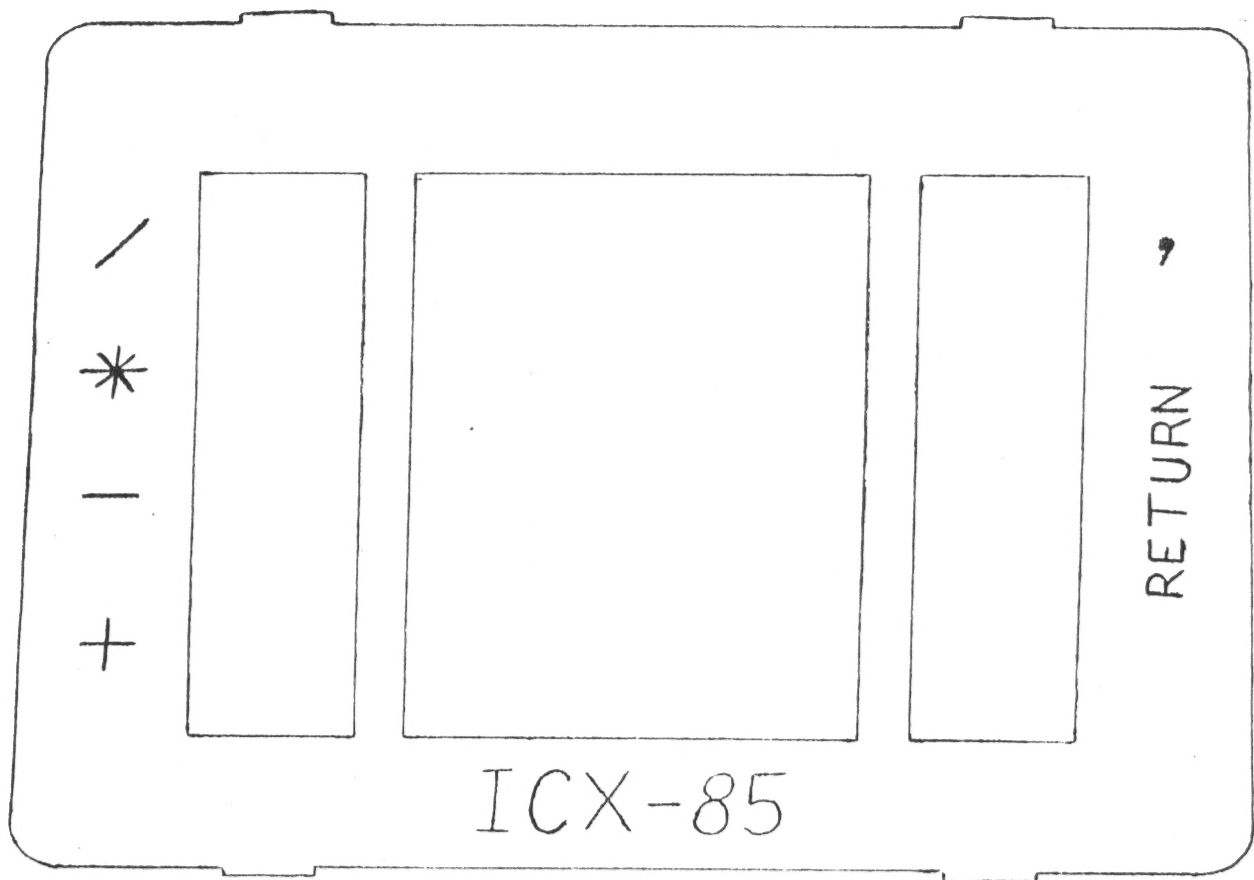
ESCAPE is now the "/" key (division)
 NO is now the "*" key (multiplication)
 DELETE is now the "-" key (subtraction)
 YES is now the "+" key (addition)
 Where the "-" was, is now the "," key (comma - great for DATA lines!)
 + ENTER is now the RETURN key only

The 0 - 9 and . keys are as marked.
 Notice how the "5" key has a small bump on it. This is for home key row typing, used by most typist.

If you have any questions or problems, contact us at the numbers on the front page.



IC-2
 *=Deluxe only



EXTRA TEMPLATE (BLANK)

